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ABSTRACT

This paper analyzes trends and challenges in recent educational reform and development in the Asia-Pacific region and explores related implications for educational research. There are numerous educational reforms in nearly all countries in the region as they respond to challenges of globalization, information technology, knowledge-based economy, and rapid societal development. Some main trends, identified from findings and observations from regional reports and policy documents, include establishing new national visions and education goals, restructuring education systems at different levels, and enhancing teacher quality and continuous life-long professional development of teachers and principals. Crucial issues that challenge the success of policy formulation and reform implementation are discussed. Implications for educational research of these issues and policy analysis will also be treated. An overarching framework of policy research and analysis is proposed with the goal of establishing a comprehensive knowledge base that can cover the whole policy life cycle to support continuous development and improvement of education initiatives at different levels. It is hoped that this paper will open a wide range of issues and implications for policy debate and research on educational reforms in the Asia-Pacific region and other parts of the world. (Contains 139 references.) (RT)

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Educational Reforms in the Asia-Pacific Region: Trends, Challenges and Research*

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Educational Reforms in the Asia-Pacific Region: Trends, Challenges and Research*

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Abstract

This paper aims to analyze the trends and challenges of recent education reform and development in the Asia-Pacific Region and elaborate the related implications for education research.

In response to the challenges of globalization, information technology, international competitions, knowledge-based economy, and fast societal developments in the new millennium, there are numerous education reforms in nearly all countries in the Asia-Pacific Region. Based on the findings and observations from numerous country reports and policy documents of Australia, Japan, Hong Kong, Korea, Malaysia, Mainland China, New Zealand, Philippine, Thailand, Vietnam, Lao, Taiwan, India, and Indonesia in the past five years, some main trends of education reforms in the Asia-Pacific Region are identified, as follows: Towards re-establishing new national vision and education aims; Towards restructuring education system at different levels; Towards ensuring education quality, standards, and accountability; Towards market-driving, privatizing and diversifying education; Towards decentralization and school-based management; Towards parental and community involvement in education and management; Towards using information technology in learning and teaching and applying new technologies (such as development planning and strategic management) in management; Towards paradigm shift in learning, teaching and assessment; and Towards enhancement of teacher quality and continuous life-long professional development of teachers and principals. The paper will describe the characteristics of these trends with the evidence from national cases.

The presentation will discuss in detail the crucial issues raised from each of these trends, that are challenging the success of policy formulation and reform implementation in education in many countries in the Region. It is a great concern about how these issues can become the urgent agenda in educational research if reforms are to be fully informed and finally successful in formulation and implementation. Therefore, the implications from these issues for educational research and policy analysis will also be the core part of this presentation. In addition to research on the issues from each trend of education reforms, the presentation also proposes an overarching framework of policy research and analysis with aims at establishing a comprehensive knowledge base that can cover the whole policy life cycle to support the continuous development and improvement of educational initiative at different levels. It is also argued that to develop a critical mass of research intelligence through different types of networking in the Region is a necessity not only for individual countries but also for the whole Asia-Pacific Region to meet the numerous challenges in education reforms for the new millennium.

The presentation will open a wide range of issues and implications for policy debate and education research in the Region and other parts of the world.

Introduction

In the past two decades, there had been numerous ongoing educational reforms and school restructuring movements not only in the western countries such as Canada, USA, UK and other European countries, but also in the Asia-Pacific regions such as Australia, New Zealand, Korea, Mainland China, Singapore, Malaysia and Hong Kong (Cheng & Townsend, 2000; Chapman, Sackney, & Aspin; 1999; Fullan, 1998; Lieberman, 1998). The development of new curriculum and instruction, the search for effective education, the shift to school-based management, the emphasis on development planning in educational institutions, the assurance and monitoring of education quality, the implementation of new curriculum programs and the application of information technology in education are examples of efforts in these reform movements (Caldwell & Hayward, 1998; Cheng, 1996a, b; Cheng, 1999a; Cheng & Townsend, 2000; MacGilchrist, et al., 1995; Murphy & Beck, 1995; Stringfield, Ross, & Smith, 1997).

What Trends, Challenges, and Implications

As one of the fastest developing areas in the world, the educational change and development in the Asia-Pacific region should receive serious local and global attention in research. Since 1990s, huge amount of national resources have been invested in education and related initiatives in nearly every country in the Region with a hope to bring in substantial improvement and development in different aspects of the society (Cheng & Townsend, 2000). But unfortunately after over 10 years effort, many countries are still very disappointed with the performance and achievement of their education system in facing the challenges of the new century. In order to redress the problems in their education systems, more and more new reforms and changes are now proposed into the agenda to improve the practice and effectiveness of education at different levels. What lessons we can learn and share from these ongoing educational reforms in the Region such that we can avoid repeating the similar failure and make better preparation for policy formulation and implementation of educational changes in our own countries?

Particularly for policy-makers, educators, and researchers, the following questions should be important in considering educational reforms:

1. What are the major trends and characteristics of the ongoing educational reforms in this region? The answer will provide a bigger regional picture for understanding the direction, nature and progress of the national initiatives and efforts;
2. What are the major challenges the policy-makers and educators are facing in current educational reforms particularly in such a new era of globalization, information technology, competition, and knowledge-driven economy? The answer to this

question will provide a common ground for sharing the concerns, discussing issues, exchanging ideas and even developing related strategies to cope with the challenges.

3. What implications can be drawn from the above trends and challenges of education reforms for research? The answer to this question may bridge the gaps between research and policy-making such that a knowledge base can hopefully be built by research to inform policy-making and practice of the educational reforms.

Some Efforts for Understanding Educational Reforms

In response to the concerns with educational reforms and development in the Region, a group of scholars in the Region had already started in 1997 to work out a symposium of country reports to describe and analyze what educational change and development have been conducted in Mainland China, Hong Kong, Korea, Malaysia, Singapore, Taiwan, and Thailand. These reports were finally edited by Y. C. Cheng and published as a special issue in *School Effectiveness and School Improvement: An International Journal of Research, Policy and Practice* (volume 10, number 1) (Cheng, 1999a). The contributors included Y. C. Cheng (1999c), N.K.L. Lo (1999), Y.H. Kim (1999), H.L. Pan & C. Yu (1999). M.N.N. Lee (1999). W.K. Ho & S. Gopinathan (1999) and S. Thongthew (1999). This special issue represented one of collective efforts paying attention to the educational change and development in the Region.

Following this issue, a broader and larger regional effort was organized in 1999 to continue the discussion about educational change and development in the Region. In addition to the new reports from Hong Kong, Japan, Korea, Malaysia, Mainland China, Singapore, Taiwan, and Thailand in Asia, country reports from Australia, New Zealand and the Pacific Islands in the South Western Pacific were also invited. T. Townsend and Y.C. Cheng edited and published these reports into a book entitled "*Educational Change and Development in the Asia-Pacific Region: Challenges for the Future*" (Swets & Zeitlinger, the Netherlands) at the beginning of 2000 (Townsend & Cheng, 2000). The contributors included Y.C. Cheng (2000a), S. Gopinathan & W.K. Ho (2000), P. Hallinger, P. Chantarapanya, U. Sriboonma, and P. Kantamara (2000), Y.H. Kim (2000), M.N.N. Lee (2000), W.J. Shan & C.C. Chang (2000), X. Tang & X. Wu (2000), S. Suzuki (2000), T. Townsend (2000), and C. Wylie (2000). This book provides a rather comprehensive source of reports and analyses for understanding the rapidly changing educational environment and reforms in the Region. Particularly, the concluding chapter (Cheng & Townsend, 2000) that has mapped out some major trends of educational change and development in the Region can provide an important base for the development of this paper.

The educational reforms in the Region have received increasing concerns from both national and international organizations. In October 2000, the National Institute of Educational Research of Japan and UNESCO had organized an international seminar on educational research

for improved policy and practice in the Asia-Pacific Region. In the conference, the participants from different countries and organizations in the Region presented their country report on educational reforms and discussed the current issues regarding the relationship between educational research and policy making. The reports represented a wide range of countries and areas in the Region such as Australia, China, Hong Kong SAR, India, Indonesia, Japan, Lao P.D.R., Malaysia, New Zealand, Philippines, Korea, Sri Lanka, Thailand, and Vietnam. The country contributors included I. M. Abumiya, Y. Nagata, & T. Numano (2000), R. Baker (2000), Boediono & I. Bambang (2000), Y. C. Cheng, M. C. Mok, & K.T. Tsui (2000), L.M. Villamin (2000), I.L. Ginige (2000), K. Rung K. (2000), K. C. Huh (2000), M. S. Khaparde (2000), C. N. Lee (2000), H. C.Nguyen (2000), P. D. Renshaw & R. L. Lingard (2000), and K. Sisavanh (2000). P. Collin, R. Maclean, and N. Zhou of UNESCO, G. Masters and P. McGuckian of the Australian Council for Educational Research (ACER) had played a key role in the discussion of educational development in the Region at the seminar. How to strengthen educational research to inform policy making for educational reforms and practice was a major concern. Responding to this concern, several important initiatives had been proposed and agreed at the end of this seminar, including establishing the Asia-Pacific Educational Research Association and publishing international journal, handbook, and book series with an aim to promote educational research informing policy making and practice and facilitate international networking, collaboration and sharing in this area.

With the support of the Korea Education Development Institute (KEDI), the Office of National Education Commission of Thailand, and the Hong Kong Education Department as well as delegations from more than 16 countries, the Hong Kong Institute of Education organized an international forum on educational reforms in the Region in February 2001. The theme is "globalization, localization and individualization for the future". The plenary country reports representing a wide range of experiences and progress of education reforms in different countries and areas in the Region included R. Baker (2001), B. Caldwell (2001a), E. S. Castillo (2001), Y. C. Cheng (2001a), B. S. Kwak (2001a), M.N.N. Lee (2001), T. Pok (2001), J. S. Rajput (2001), K. Rung (2001), P. W. J. Shan (2001), I., Sharpe & S. Gopinathan (2001), S. Suzuki (2001), X. Tang (2001). B. Creemers (2001) had contributed a report on the European experiences in educational reforms. At the forum, educators, policy-makers, researchers and practitioners had wide discussion of the trends and directions of educational reforms in individual countries and the whole Region, in response to the impacts of globalization and technology, the demands for localization and the expectations of individualization in education in the new century. The outcomes of the discussion, sharing and analysis were very fruitful, stimulating, and long lasting to educational development in the Region.

In July 2001, the Office of National Education Commission organized another international forum on educational reforms, with the support of a number of national and

international organizations. Again, this international forum represented the continuing national and regional effort and commitment to educational development and change with a hope to meet the challenges of the new millennium. The representatives of selected countries mainly in the Region with some for UK and USA reported their country experiences in formulating and implementing educational reforms and related strategies. The contributors included B. J. Caldwell (2001b), Y. C. Cheng (2001b), B. Fender (2001), G. Hawke (2001), Y. Kazufumi (2001), H. S. Kim, (2001), K. S. Kim (2001), B. S. Kwak (2001b), E. Newcomb (2001), V. T. Nguyen (2001), S. Pascoe (2001), H. B. Said (2001), S. Sereyrath (2001), K. Sisavanh (2001), J. P. Reeff (2001), F. Z. Yu (2001), E. Yulaelawati (2001), and N. Z. Zhou (2001). This forum provided a very important occasion for many policy-makers, educators and researchers to exchange their fruitful experiences and perspectives, discuss the trends and issues of educational reforms and develop different types of networks in the Region for further collaboration and sharing in the ongoing reforms.

Since 1998, the *Asia-Pacific Journal of Teacher Education and Development* (YC Cheng as chief editor) has published numerous articles and country reports on change and development in teacher education and development in the Region. These articles particularly country reports like Korean symposium (Y.H. Kim as guest editor, 2000, Vol.3, No.1), Singaporean symposium (S. Gopinathan, W.K. Ho, & J. Tan as guest editors, 1999, Vol.2, No.1), Malaysian symposium (M.N.N. Lee as guest editor, 2000, Vol.3, No.2), Australian symposium (K.J. Kennedy as guest editor, 1998, Vol.1, No.2), Chinese symposium (G. Ding as guest editor, in press), and Taiwan symposium (P. Shan as quest editor, in press) are also an important source of information for understanding the context of educational reforms in some countries in the area of teacher education.

The country reports from the special issue of *School Effectiveness and School Improvement* in 1999, the book "*Educational Development and Change in the Asia-Pacific Region: Challenges for the Future*" in 2000, the international seminar held in Japan in 2000, the two international forums held respectively in Hong Kong and Thailand in 2001, and the country symposiums in *Asia-Pacific Journal of Teacher Education* since 1998 become the updated, comprehensive and relevant asset and source of information for understanding the trends and issues of educational reforms in the Region. Based on the findings and observations from these country reports and other policy documents in the past few years, this paper aims to explore the above three questions regarding the trends and challenges of educational reforms in the Region and the implications for educational research.

After reviewing the above reports and related documents with the insights from Cheng (1999a) and Cheng & Townsend (2000), some important trends and challenges in ongoing educational reforms in the Region can be observed as follows:

1. Towards Re-establishing New National Vision and Education Aims
2. Towards Restructuring Education System at Different Levels
3. Towards Using IT and New Technologies in Education
4. Towards Ensuring Education Quality, Standards, and Accountability
5. Towards Market-Driving, Privatizing and Diversifying Education
6. Towards School-based Management and Human Initiative
7. Towards Parental and Community Involvement in Education
8. Towards Paradigm Shift in Learning, Teaching and Assessment
9. Towards Continuous Life-long Professional Development of Teachers and Principals

Towards Re-establishing New National Vision & Education Aims

Many national leaders in the Region often assume a functionalistic perspective in which they view education reform as a means of supporting economic, political, and cultural development of society (Blackledge & Hunt, 1985; Cheng, 1995). In facing the rapid changes and global challenges from economic, cultural and political transformations, national leaders have become acutely dissatisfied with the short-term achievements of their education systems. Political leaders increasingly draw connections between the role of education and the achievement of their national visions for growth and prosperity in the new era (Brown, 1999; Brown & Lauder, 1996; Cheng, 1999b; Cheng & Townsend, 2000; Waters, 1995). They propose new educational visions and long-term aims to prepare their new generations for the future in a globally competitive environment.

Malaysia provides a typical example of this connection between national vision and educational goals. Under Dr. Mahathir Mohammed's leadership, the Malaysian government proposed its *Vision 2020*. This plan developed during the 1980's proposed that Malaysia would transformed itself from a commodity-export country to an industrialized and developed country by the year 2020. Education played a central role in *Vision 2020* as an instrument for promoting national unity, social equality and economic development (Lee, M,N.N., 1999, 2000; Lee, C.N., 2000).

By way of further example, Singapore's national leaders took a similarly strategic view of education in their plans for nation-building. Indeed, they took the challenge of making *learning* part of the a national culture. Accordingly, they proposed the slogan " Thinking schools, a learning nation" as a vision for directing national educational changes. As illustrated in Gopinathan & Ho (2000), "...While the national economy (Singaporean) is adjusting through structural shifts, such as liberalization, deregulation, and privatization, which help integrate a

national economy with the larger world economy..., the education system must also adjust structurally to a changing national economy."

Numerous similar examples can be found in Cambodia, Mainland China, India, Philippine, Taiwan, Korea, Hong Kong, Thailand, Japan, Singapore, New Zealand, and Australia. In these nations, leaders have reviewed their educational aims and established new goals that reflect new national and global visions (Baker, 2001; Caldwell, 2001a,b; Cheng, 2000a, 2001a, b; Castillo, 2001; Sereyrath, 2001; Shan & Chang, 2000; Suzuki, 2000; Tang & Wu, 2000; Tang, 2001; Yu, 2001; Townsend, 2000; Rajput, 2001; Rung, 2001; Sharpe & Gopinathan, 2001). Countries may have different historical backgrounds and therefore different educational aims.

Nonetheless the changing role of education in national development has created serious challenges for educators, leaders, and practitioners at the system and school levels. They have to echo these new national visions and goals and consider changes in the aims, content, process, and practice of their education. They are facing important challenges such as:

1. How should they plan and conduct these necessary changes at different levels effectively?
2. How should they lead their teachers, students, and other stakeholders to face up the changes and pursue a new education that is relevant to the future?
3. How can the educational change and development be ensured to relevant to national growth and development in the competitive global environment?
4. How can the knowledge base of educational aims and school functions can be broadened to support more relevant policy making and educational planning?
5. According to Cheng's (1996a), there are multiple new functions of educational institutions at individual, institutional, community, societal, and international levels in the new century, including the technical/economic, human/social, political, cultural, educational functions (as shown in Table 1). To what extent, the current educational reforms can take all these multiple functions at different levels into consideration?
6. How can the initiatives and reforms ensure a balance in achieving these functions and aims on one the hand and also can reflect the national priority within the constraints on the other hand?

All these are important issues and challenges in educational reforms in the Region. But unfortunately, there seems to be lack of a comprehensive knowledge framework for policy makers and country leaders of these countries and areas to have a broader perspective for review, assessment and development of their educational aims. It is an urgent need for educational research in this area.

Table 1. Educational Aims and Functions at Multi-levels

(adapted from Cheng, 1996a)

	Technical/ Economic Functions	Human/ Social Functions	Political Functions	Cultural Functions	Educational Functions
Individual (students, staff, etc.)	• Knowledge & skills training • Career training • Job for staff	• Psychological developments • Social developments • Potential developments	• Development of civic attitudes and skills	• Acculturation • Socialization with values, norms, & beliefs	• Learning how to learn & develop • Learning how to teach & help • Professional development
Institutional	• As a life place • As a work place • As a service organization	• As a social entity/system • As a human relationship	• As a place for political socialization • As a political coalition • As a place for political discourse or criticism	• As a center for cultural transmission & reproduction • As a place for cultural re-vitalization & integration	• As a place for learning & teaching • As a center for disseminating knowledge • As a center for educational changes & developments
Community	• Serving the economic or instrumental needs of the community	• Serving the social needs of the community	• Serving the political needs of the community	• Serving the cultural needs of the community	• Serving the educational needs of the community
Society	• Provision of quality labor forces • Modification of economic behavior • Contribution to the manpower structure	• Social integration • Social mobility/ social class perpetuation • Social equality • Selection & allocation of human resources • Social development & change	• Political legitimization • Political structure maintenance & continuity • Democracy promotion • Facilitating political developments & reforms	• Cultural integration & continuity • Cultural reproduction • Production of cultural capital • Cultural revitalization	• Development of the education professions • Development of education structures • Dissemination of knowledge & information • Learning society
International	• International competition • Economic cooperation • International trade • Technology exchange • Earth protection • Sharing information	• Global village • International friendship • Social cooperation • International exchanges • Elimination of national /regional /racial /gender biases	• International coalition • International understanding • Peace/ against war • Common interests • Elimination of conflicts	• Appreciation of cultural diversity • Cultural acceptance across countries/ regions • Development of global culture	• Development of global education • International education exchanges & cooperation • Education for the whole world

Towards Restructuring Education System at Different Levels

The development of education system often has to meet the needs of development of economy in the country (Cheng, Ng, & Mok, in press; Chabbott & Ramirez, 2000; Coombs, 1985; Boli, Ramirez & Meyer, 1986). In the past two to three decades, most developing countries or areas in the Asia-Pacific region had made great efforts to expand their compulsory education to 9 years when they were establishing their industries. Now some of them are making effort to expand their senior secondary school sectors and improve the enrollment to higher education. For example, Hong Kong, Taiwan, Malaysia, and Korea are typical cases (Cheng, 2001a,b; Shan & Chang, 2000; Lee,M.N.N., 2000; Kim, 2000, 1999). Comparatively some countries like Cambodia, Vietnam, and Lao put more effort to further expand their compulsory

education (Pok, 2001; Sereyrath, 2001; Sisavanh, 2001). Singapore and Taiwan provide more vocational and technical training opportunities at the secondary and post-secondary levels (Gopinathan & Ho, 2000; Shan & Chang, 2000; Pan & Yu, 1999).

Many countries in the Region had invested more and more resources in educational development in the past decade. Some developed countries like Japan, Australia, and New Zealand, after expansion of their education systems since a few decades ago, are not concerned with their compulsory or universal education anymore (Baker, 2001; Kazufumi, 2001; Suzuki, 2000; Townsend, 2000). They are more concerned with the accountability and quality of their education systems than the quantity.

In facing the challenges of globalization, knowledge-based economy, and international competition, some areas such as Korea, Mainland China, Taiwan, Hong Kong, Malaysia, and Singapore are very concerned with the effectiveness and relevance of the academic system to the national development in such a competitive global environment context. They have started to review and change their education systems from early childhood education to citizenship education. For example, they put more emphasis on the early childhood education, enhance the provision of vocational education in terms of quantity, quality, variety and relevance, and review the interface between levels of school education. The reform of examination systems is also an important area of academic system review. For example, in China, Japan, Korea, Singapore, and Malaysia, there are different types of policy efforts to review and change their examination systems. The purposes of these changes are to reflect the changes towards new educational aims, improve the process of selection and allocation of students, promote multiple intelligence of students, enhance educational equality, re-direct educational practice, or redress serious drawbacks of the examination oriented culture particularly in some Asia countries.

In reviewing and restructuring their education systems to meet the rapid national transformations and developments in the new millennium, the policy-makers, educators and researchers in the Region have to face some important challenges in such a fundamental structural reform. For example,

1. Relevant to the Future? Given the changes in the educational aims and national vision, how the expansion of education and the restructuring of academic system can reflect or serve the needs of these changes? How do we know the structural changes of the system relevant to the future?
2. What Appropriate Alternatives? There may be a number of alternatives of education systems that can serve the new educational aims and national vision. How can the policy makers find out these alternatives and understand which one is most appropriate for their country within the existing cultural, political and economic constraints (Cheng, Ng, & Mok, in press)?

3. Balance between Quality and Quantity? For example in Korea, Taiwan and Hong Kong, many people are concerned whether the rapid expansion of higher education is at the cost of quality of graduates (Lee, M.H., 2001). How can the change of education system keep a well balance between the expansion of education and the quality of education? To what extent, the traditional elite system should be kept? And in what ways, through private funding or through public funding?
4. Difficulties in Fundamental Structural Change? Review and reform of education system is in fact a fundamental structural change, involving so complicated and extensive political interests and concerns of nearly all key parties and actors in education and the larger community. How can the policy-makers and stakeholders get over all the existing structural and political difficulties and conflicts in the review and reform and reach at a rational, feasible and commonly acceptable plan for action (Cheng & Cheung, 1995)?
5. Lack of Knowledge Base? Since review and reform of education system is a very complex and large-scale social endeavor and change affecting the future of so many students and teachers and the society, it should be based on a very comprehensive knowledge base for review, planning and implementation at different levels of the education system. How can policy-makers, educators and other key actors be provided with such a knowledge base for their actions?

The above are just some of many challenges in review and reform. Clearly all these challenges and issues inevitably become the core agenda of policy debate that should be analyzed and investigated extensively by research. Unfortunately, there seems to be a gap between the ongoing reforms and the research in many countries. In other words, there is an urgent need for a very wide spectrum of research to address the policy concerns of system change in education in different countries in the Region in these years.

Towards Using IT and New Technologies in Education

The increasing tremendous impacts of information technology (IT) on every aspect of the society and the whole world are evident to most national leaders and education leaders in the Region. Many policy-makers take IT in education as one of the most strategic initiatives in ongoing educational reforms (Birch & Maclean, 2001). Countries like Japan, Australia, and Singapore have implemented their strategies to promote IT in education a few years earlier while the other have also started their IT plans in the last three years (Suzuki, 2000; Townsend, 2000; Gopinathan & Ho, 2000). In Hong Kong, schools are getting more and more computers and other IT facilities and they are also helped to network both locally and internationally through Intranet and Internet. More and more training is provided for teachers in the use of IT in

teaching. Teachers and students are often expected to become IT competent in a very short time (Education and Manpower Bureau, 1998).

As pointed out by Cheng & Townsend (2000), the initiatives for promoting IT in education proposed in the past few years are meeting some basic issues, such as:

1. Gaps between IT and New Education Aims?: Although IT is very powerful to create opportunities for learning and facilitate learning and teaching in a very efficient way, its functions should not be over-emphasised because IT is a means but not the end of education. Therefore, both policy-makers and educators have to consider its relevance to achievement of educational aims when formulating strategies for IT in education. Some basic issues have to be tackled, such as how and what types of IT are related to existing or new aims; to what extent and in what aspects can the use of IT help to achieve educational aims; and what potential limitations are there for IT within education.
2. Gap between Hardware, Software, and Training? From experiences in some countries, it seems to be easier to buy hardware such as computers and other IT facilities for schools than it is to provide appropriate software and training for teachers and students. Many school practitioners spend a lot of their energy and time developing 'home-made' software because of lack of a more comprehensive and sophisticated software system to support teaching and learning in IT. But unfortunately, this 'home-made' software is often not so professional or high quality but timing consuming. It has been the case in one country, that a central authority sent computers to schools that didn't even have electricity. How to provide a comprehensive package including the necessary hardware, software, and training as well as a IT platform to support and maintain the effective and efficient use of IT in teaching and learning is an important issue, particularly in some developing areas where they have few resources for development.
3. Gap between IT and Curriculum Development? People wonder whether the existing curriculum should be changed in terms of aims, subject content, instructional process, or assessment to adapt to the new IT learning environment. And also, they do not know how to do it. There is often lack of a new framework for integrating the strengths and benefits of IT into curriculum development. The advances in IT happen too fast. There is a clear gap between the rapidly changing IT environment and the curriculum development in most countries in the Asia-Pacific Region.
4. Gap between Technological Change and Cultural Change? In the past few years, many policy-makers in the Region implemented IT in schools and yet met strong resistance from school practitioners. There have been not only technological difficulties but also cultural problems. Implementation of IT in education, such a wide technological transformation, inevitably involves cultural change among

teachers, principals, education officers, other change agents, and even students, if successful change is expected (Levy, 1986). Therefore, how to change the existing attitudes and beliefs into a new IT culture is clearly a serious challenge in the reform no matter whether in developing countries or developed areas.

In addition to IT in education, there has been a clear shift of emphasis from using simplistic techniques towards applying sophisticated technology in educational management in the past decade. Traditionally, it was often assumed that educational goals are static, and standard, and mandated by the central education authority. Schools or educational institutions were all under external control and dependent on management by central authorities. Moreover, the environment of schools was changing at a slower pace. Within this relatively stable environment, senior managers did not see a need to use sophisticated management technologies.

Today, however, the environment is changing much more rapidly. Consequently, management technologies such as strategic management, development planning, participative management, and quality assurance, are increasingly emphasized. Policymakers are promoting the use of these methods throughout the world (Bush & Coleman, 2000; Caldwell & Spinks, 1992; Goddard & Leask, 2000; MacGilchrist et al., 2000). Again, implementation of these technological initiatives involving both technological and cultural changes in educational institutions inevitably raise challenging issues for education leaders.

How to lead implementation of IT and other new technology in education is a completely new concern for most policy-makers, educators, and leaders in the Region. The effective responses and strategies for handling the issues and challenges raised above depend heavily on the deep understanding of them and the knowledge base of implementation of cultural and technological changes in different contexts. All these are in need of the support from educational research.

Towards Ensuring Education Quality, Standards, and Accountability

As reported in Cheng (2001c), there are three waves of educational reforms in different parts of the world to pursue internal quality, interface quality and future quality in education in the past three decades. The first wave focuses on pursuit of internal quality and effectiveness through improvement of internal process particularly teaching and learning. The second wave emphasizes on achievement of interface quality through ensuring educational accountability to the public and meeting stakeholders' satisfaction. The third wave aims at assurance of future quality with strong emphasis on enhancement of educational relevance to the future needs in the new millennium.

From the country reports, we can see that many countries in the Region are mainly in the second wave of educational reforms with some starting the third wave. Since the beginning of 1990s, there have been a lot of initiatives with strong emphasis on education quality assurance and accountability due to the growing importance of stakeholders' expectations and satisfaction with education in a changing environment. Particularly following quality movements in the business and industry sectors over the last two decades, concepts such as quality control, quality assurance, total quality management, and benchmarking have been brought into the education sector (Goddard & Leask, 1992; Mukhopadhyay, 2001). In practice, the definition of education quality is often associated with fitness for use, the satisfaction of strategic constituencies, and conformance to strategic requirements and expectations. Different indicators are being developed and used to assess education quality and to set education standards or benchmarks for school performance and accountability (Fitz-Gibbon, 1996; Goddard & Leask, 1992: MacBeath, Boyd, Rand, & Bell, 1996).

In the Region, many areas like Australia, India, Mainland China, Thailand, Hong Kong, and Singapore have induced different types of quality assurance initiatives to monitor and promote education quality and accountability (Abdullah, 2001; Cheng, 1997b, 2001a,b; Mukhopadhyay, 2001; Lloyd, 2001; Townsend, 2000). In planning and implementing these initiatives and efforts, there are some important issues challenging policy-makers, educators and researchers (Cheng, 1997a). For example,

1. How do they know the existing stakeholders' satisfaction and expectations relevant to the future of new generations and the society in the new millennium? If not so relevant, how can they handle the gap?
2. How can they ensure a balance between school's internal development and accountability to the public? A very strong emphasis of accountability to the public often accompanies with close supervision and control that will stop self initiative for internal development but create stronger defensive mechanism to stop organizational learning.
3. As different stakeholders with diverse and even conflicting interests, how can they handle the potential contradictory purposes between school self-evaluation and external evaluation in quality assurance?
4. Education process is complicated involving many factors, how can they know what indicators are valid and reliable to reflect the quality and effectiveness in education and what combinations of indicators of input, performance, and outcomes are appropriate to these educational institutions in some specific contexts at a certain time framework?
5. On what base quality standards and benchmarks should be set? How to ensure them acceptable and fair to all involved parties and feasible in management and

implementation?

6. Monitoring education quality at the school-site should be different from that at the system level. How they manage this different in a more efficient and effective way such that educational institutions or schools will not be overburdened?
7. Given the importance of leadership in pursuing education quality, how can they develop their educators and leaders to implement quality assurance and quality inspection effectively (Cheng, 1997b; George, 1992; Goetsch & Davis, 1994)?

These issues and challenges are in fact asking for research to inform leaders, educators and policy-makers who are responsible for ensuring education quality and accountability at different levels for the public.

Towards Market-Driving, Privatizing and Diversifying Education

There are substantial financial constraints on meeting the rapidly increasing needs of diverse developments in nearly all countries in the Region. It is a trend that policy-makers in some countries are trying to shift the full public funding model to privatization as one approach to expanding, diversifying and improving education. For example, as China transitions to a market economy, it is to confronting more complicated and tight financial constraints in developing its education system to the huge and diverse needs in education (Tang & Wu, 2000; Lo, 1999). Particularly when more and more people want to pursue higher education in order to survive in a very competitive job market, privatization in tertiary education becomes quite common in some areas like Korea, Taiwan, Japan, Mainland China, and Philippine.

It is generally believed that privatization will allow educational institutions to increase the flexibility of physical and human resource use. How to create a market or semi-market environment for promoting competition between educational institutions has become a salient issue in reform at the turn of the century. Some countries (e.g., Australia) are experimenting with funding methods designed to encourage self-improvement as well as competition among schools. Other areas (e.g., Hong Kong and Singapore) are trying out different types of parental choice schemes.

In such a trend moving towards privatization and marketization in education, some critical issues are emerging to challenge policy-makers, social leaders and educators. Some salient examples of them are listed as follows:

1. Equity and Quality? How can education equity and quality be ensured for students in disadvantaged conditions? This is often a crucial issue in policy debate (Cheng, Ng, & Mok, in press).
2. Diverse and Conflicting Expectations? There are diverse and conflicting

expectations of stakeholders about education in the Region. For example, teachers or educators emphasize more on the citizenship quality of their graduates. The parents are more concerned whether their children can pass the examinations and get the necessary qualifications for the job market. The employers often doubt whether the graduates have the necessary knowledge and skills to perform their job performance. How should the expectations of these key stakeholders be identified and prioritized if schools have to survive in a competitive market environment? How should they deal with the diverse and even conflicting expectations of different school stakeholders on the aims, content, practice, and outcomes of school education?

3. Market Forces and National Aims? The market forces may not aim at the national aims and vision in education. How can policy-makers and educators ensure that the market forces at the local or community levels can represent the direction of development at the national or international levels?
4. Parental Choice and National Visions? Specifically, how consistent are the parental or individual choices with the national visions and goals? How should these choice be supported by the state?
5. National Framework and Privatization? To what extent a national framework should be set on the market system and privatization without stopping initiatives from the bottom level but maintaining the national direction and forces in the global competitions.

All these are just some of dilemmas and issues facing policy-makers and educators in formulating educational changes towards market system and privatization. Unfortunately, the knowledge for understanding and handling these challenges is little in the Region. Research on this important area is inevitably necessary in coming few years if the trend towards marketization and privatization in education is to maintain.

Towards School-based Management and Human Initiative

The emerging international trend in educational administration from external control to school-based management for effective use of resources and promoting human initiatives in education was evident in 1990s and is continuing today. Centralized management often ignores school-based needs and human initiatives and it is too rigid to meet changing school needs (Cheng, 1996a). Current reforms in many parts of the world are seeking to facilitate school-based initiative for development and effectiveness in education.

This is the case, for example, in developed nations such as New Zealand and Australia. In New Zealand, public schools were changed into self-managing schools in 1998. In the state

of Victoria, Australia, schools were turned into self-managing schools in 1993. More recently they have started the process of further decentralizing authority to promote self governing schools (Caldwell & Spinks, 1992; Caldwell & Hayward, 1998; Townsend, 2000).

Similar trends are now apparent in developing nations or areas as well. In Hong Kong, the "School Management Initiative" was begun in 1991 with the goal of enhancing education quality through school-based management. Hong Kong's Education Commission further reinforced school-based management as one facet of its quality assurance process for all schools in 1997. In Korea, hundreds of public primary and secondary schools experimentally organized a School Governing Board involving teachers, parents, principals, alumni, and community leaders to promote school self-management and enable schools to provide diverse educational services to meet the needs of their local community (Kim, 1999, 2000). In Malaysia, the administrative system is being decentralized to encourage school-based management and teacher empowerment (Lee, M.N.N., 1999, 2000). In Singapore, the government set up " autonomous schools" as early as 1991, as a way of improving quality in education (Gopinathan & Ho, 2000). In Mainland China, decentralization of power from the central government to local communities and to the school level is becoming evident. School autonomy and the participation of local community are now being encouraged to facilitate school development and effectiveness (Tang & Wu, 2000).

According to Cheng & Townsend (2000), the change from traditional external control management to school-based management in the regional countries confronts a number of issues that have to be tackled in the process of educational transformation:

1. Decentralization and accountability? After decentralizing the authority and power to the school-site level, how to keep the self managing schools and teachers accountable to the quality of education and the use of public money. Even though a concept of "double tight-loose coupling" has been proposed to tackle this issue, it is still a long way to put it in practice and the issue remains a hot area in ongoing policy discussion about decentralization in education (Cheng & Ng, 1994).
2. School-based Management and Educational Equality? People often believe that with greater autonomy some better schools may take more advantages to recruit better students and teachers and procure more resources such that the educational inequality will be persistent and enlarged particularly to the students from disadvantageous background. For example, Townsend's previous analysis and his chapter on the Australia case have raised concerns about it (Townsend, 1996, 1997).
3. SBM as Technological Change and Cultural Change? The shift to school-based management represents a type of change in management technology. But whether it can be effectively implemented at both system and school site levels depends heavily on the

cultural change among those concerned (Levy, 1986; Ng & Cheng, 1995). Numerous studies have reported the barriers and conflicts in implementing school-based management because both education officers at the system level and school practitioners at the school levels still have the mind set of external control management when implementing the management change towards the school-based management model (Cheng & Chan, 2000).

4. School-based Management and Educational Outcome? Many contemporary school-based management studies address self management only at the school level and often assume that increased schools' autonomy and responsibilities will result in school effectiveness in producing quality educational. Yet, this assumption is questionable and past empirical studies do not come to a convergent view (Sackney & Dibski, 1994). From the perspective of Cheung and Cheng (1996), the linkage of school-based management to educational outcomes should be strengthened through multi-level self management at the individual, group and school levels. Even though it may be one of theoretical efforts to bridge the gap between management change and student performance, the debate on this issue is still hot and ongoing until there is sufficient empirical evidence to show the linkage.
5. Downsizing Central Education Department? Following the decentralization of authority from the central office to the schools, the major role and responsibilities of central education department largely disappear and the structure of the existing central bureaucracy in education has to be downsized and reformed. For example, the Education Department of the Victoria State of Australia had been largely cut in the process of implementing school-based management. Downsizing central education department is one of hardest parts of educational change in most countries of the Region. Most of educational changes are often initiated and planned by the central office but downsizing of education department inevitably conflicts with the interest of the bureaucracy.

The above issues present a wide spectrum of research areas that need a lot of intellectual efforts for understanding the complexity of school transformation and informing policy-making and implementation of school-based management.

Towards Parental and Community Involvement in Education

During the past several decades, parents and the community have increased their expectations of education and become more demanding of better school performance for their children. Also, there is increasing demand for educational accountability to the public and to demonstrate value for money because education is mainly financed by the taxpayers (Adams &

Kirst, 1999). This has forced educational leaders at school, district and national levels to provide more clear avenues for parents and the community to participate in developing the school.

In some developed countries such as USA and Canada, there was a long tradition of parental involvement in their schools (Berger, 1987). In many Asian areas such as Thailand, Malaysia, Taiwan, Korea, Japan, Hong Kong and Mainland China, such a tradition was largely absent. Recently, people in these countries have become more aware of the importance of involving parents and local communities in school education (Wang, 2000). Although in some areas there is seldom legislation to guarantee parents' involvement in school education, sentiment is growing that parents should be given this right (Tik, 1996).

In addition to parents, the local community and the business sector are also direct stakeholders of education. Their experiences, resources, social networks and knowledge are often very useful to the development and delivery of education (Wang, 2000). From a positive perspective, community involvement in education can benefit the educational institution from pooling more local resources, support, and intellectual input to it. Particularly when facing the increasing but diverse demands for quality education, the community resources and support become really important and necessary. Also, parents and community leaders can share the management responsibility, strengthen communication between families, the community, and the school, motivate teachers, monitor school operations, and even assist the school in combating negative influences inherent in the local community (Cheung, Cheng & Tam, 1995; Goldring & Sullivan, 1996).

Culture for Parental Community Involvement? Even though parental and community involvement has the advantages, how to effectively promote and implement it is still a core issue in current educational reforms in the Region. Most Asia countries lack a culture to accept and support the practice of parental and community involvement. Teachers are traditionally highly respected in the community. It is often believed that school education should be the sole responsibility of teachers and principals. Parents have tended to view them as the experts in education. Parental and community involvement is often perceived as distrust of teachers and principals. To involve parents can be perceived as a loss of face among professionals. How can the policy-makers and educators change this culture to encourage more community involvement?

Inducing More Political Problems? Parental and community involvement in school management and leadership will inevitably increase the complexity, ambiguities and uncertainties in the political dimension of educational institutions. How can our education leaders can be prepared to lead parents and the community, build up alliances, balance diverse interests between parties, and resolve different types of interest conflicts to bring in benefits but

avoid negative effects of parental and community involvement? Would the induced political problems and difficulties from the external involvement be in fact diluting the scarce time and energy of teachers and leaders from educational work for students? How can they handle these dilemmas in managing parental and community in education? All these questions and issues need the support and advice from research.

Towards Paradigm Shift in Learning, Teaching and Assessment

In response to the challenges of globalization, information technology and knowledge-based economy in the new millennium, there is a growing trend of educational reform with emphasis on paradigm shift in learning, teaching and assessment in more and more areas in the Region. Numerous curriculum reforms are ongoing in the Region. For example, Hong Kong, Taiwan, Australia, Korea, and Singapore have started some initiatives with the support of IT and networking to promote drastic changes in curriculum, pedagogy and assessment with a hope to bring in paradigm shift in learning and teaching in classroom.

As pointed out in Cheng (1999b, 2000b), the whole world is moving towards multiple globalizations and becoming a global village with boundless interactions among countries and areas in the new century. Many societies in the Region are becoming more diverse and multiple and moving towards as a learning intelligent society. In such a fast changing and interacting local and global environment, the aims of new education should be to develop students as contextualized multiple intelligent (CMI) citizens who will creatively contribute to the formation of a CMI society and a CMI global village with multiple developments in technological, economic, social, political, cultural, and learning aspects. Cheng (2000b) further urged that there should be paradigm shift from the traditional site-bounded paradigm to a new CMI-triplization paradigm with emphasis on development of CMI of the new generations through the process of triplization including globalization, localization, and individualization) in education, as summarized in Table 2. The paradigm shifts in learning and teaching are summarized in Tables 3 and 4. For the detail, please refer to Cheng (2000b).

We can expect, education in the Region will be triplized (i.e. globalized, localized, and individualized) in the new century. In fact, the ongoing education reforms in different parts of the world have already provided evidence that many countries are making effort in this direction through various types of initiatives in globalization, localization and individualization. The learning and teaching will be finally triplized with the help of the information technology and boundless multiple networking. Unlimited opportunities and multiple global and local sources will be created for life-long learning, development and research of both students and teachers.

21 Since the traditional paradigm emphasizes the delivery of knowledge and skill, the

efforts of educational reforms are often focused on: how well learning and teaching are organized to deliver the necessary knowledge and skills to students; how well the delivery of citizenship knowledge and skills to students can be ensured through the improvement of teaching and learning; how well teachers' teaching can be improved in a given time period; and how well students can arrive at a given standard in examinations. But now, the paradigm shift in education inevitably induces a completely different set of concerns and challenges to educational reforms. The following are just some of them:

Table 2: Implications of Triplization for Education

Triplization	Conceptions and Characteristics	Implications for New Education
Globalization	Transfer, adaptation, and development of values, knowledge, technology and behavioral norms across countries and societies in different parts of the world: • Global Networking • Technological, Economic, Social, Political, Cultural, and Learning Globalization • Global Growth of Internet • International Alliances and Competitions • International Collaboration & Exchange • Global Village • Multi-cultural Integration • International Standards and Benchmarks	**To maximize the education relevance to global development and pool up best intellectual resources, support, and initiatives from different parts of the world for learning and teaching**: e.g. • Web-based Learning • International Visit/Immersion Program • International Exchange Program • Learning from Internet • International Partnership in Teaching and Learning at group, class, and individual levels • Interactions and Sharing through Video-Conferencing across Countries, Communities, Institutions, and Individuals • Curriculum Content on Technological, Economic, Social, Political, Cultural, and Learning Globalization
Localization	Transfer, adaptation, and development of related values, knowledge, technology, and behavioral norms from/to the local contexts: • Local Networking • Technological, Economic, Social, Political, Cultural, and Learning Localization • Decentralization to the Local Site Level • Indigenous Culture • Community Needs and Expectations • Local Involvement, Collaboration and Support • Local Relevance and Legitimacy • Community-based Needs and Characteristics • Social Norms and Ethos	**To maximize the education relevance to local developments and bring in community support and resources, local partnership, and collaboration in learning and teaching: e.g.** • Community Involvement • Public- Institutional Collaboration • Institutional-based Management & Accountability • Inter-institutional Collaboration • Community-related Curriculum • Curriculum Content on Technological, Economic, Social, Political, Cultural, and Learning Localization
Individualization	Transfer, adaptation, and development of related external values, knowledge, technology, and behavioral norms to meet the individual needs and characteristics: • Individualized Services • Development of Human Potential in Technological, Economic, Social, Political, Cultural and Learning Aspects • Human Initiative and Creativity • Self-actualization • Self-managing and Self-governing • Special Needs	**To maximize motivation, human initiative, and creativity in learning, teaching and research**: e.g. • Individualized Educational Programs • Individualized Learning Targets, Methods, and Progress Schedules • Self Life-long Learning, Self Actualizing, and Self Initiative • Self Managing Students and Teachers • Meeting Special Needs • Development of Contextualized Multiple Intelligences

Table 3: Paradigm Shift in Learning

New CMI-Triplization Paradigm	Traditional Site-Bounded Paradigm
Individualized Learning: • Student is the Centre of Education • Individualized Programs • Self Learning • Self Actualizing Process • Focus on How to Learn • Self Rewarding	**Reproduced Learning:** • Student is the Follower of Teacher • Standard Programs • Absorbing Knowledge • Receiving Process • Focus on How to Gain • External Rewarding
Localized and Globalized Learning: • Multiple Sources of Learning • Networked Learning • Life-long and Everywhere • Unlimited Opportunities • World-Class Learning • Local and International Outlook	**Institution-Bounded Learning:** • Teacher-Based Learning • Separated Learning • Fixed Period and Within Institution • Limited Opportunities • Site-Bounded Learning • Mainly Institution-based Experiences

Table 4: Paradigm Shift in Teaching

New CMI-Triplization Paradigm	Traditional Site-Bounded Paradigm
Individualized Teaching • Teacher is the Facilitator or Mentor to support Students' Learning • Multiple Intelligence Teacher • Individualized Teaching Style • Arousing Curiosity • Facilitating Process • Sharing Joy • As Life-long Learning	**Reproduced Teaching** • Teacher is the Centre of Education • Partially Competent Teacher • Standard Teaching Style • Transferring Knowledge • Delivery Process • Achieving Standard • As a Practice of Previous Knowledge
Localized and Globalized Teaching: • Multiple Sources of Teaching • Networked Teaching • World-Class Teaching • Unlimited Opportunities • Local and International Outlook • As World-Class and Networked Teacher	**Site-bounded Teaching:** • Site-Bounded in Teaching • Separated Teaching • Bounded Teaching • Limited Opportunities • Mainly School Experiences • As Site-bounded and Separated Teacher

Cultural Change and Paradigm Shift? Paradigm shift is not only a kind of technological and theoretical change but also a kind of deep cultural change including changes in all concerned stakeholders and key actors' attitudes and their whole line of thinking about the future of the global world, the vision, aims, contents, methods, processes, practices, management and funding of education. How can such a comprehensive paradigm shift be achieved at different levels in ongoing educational reforms?

Teachers Prepared as Key Actors for Paradigm Shift? Clearly, teachers will play a very crucial role in the whole process of triplization in education and development of students' CMI. Without them, such a paradigm shift in learning and teaching is impossible. How teachers can be prepared to develop themselves as triplized CMI teachers, transform their educational institutions as triplized CMI institutions, and facilitate their students become triplized CMI leaders and citizens? Also, how can they help to transform curriculum and pedagogy as world class to meet the challenges and needs in the new millennium? These are really important challenges.

New Quality Assurance for Paradigm Shift? As explained by Cheng (2001c), there should be new conception of quality assurance responding to the paradigm shift in learning, teaching and assessment. In other words, the reform efforts and quality initiatives should be driven by the new paradigm of education. Therefore, the following issues become important challenges to the policy-makers, educators and researchers:

1. How well learning and teaching can be triplized in the ongoing educational reforms? In other words, how students' learning and teachers' teaching can be ensured well placed in a globalized, localized, and individualized context?
2. How well students' learning opportunities can be maximized through the IT environment, networking and CMI teachers prepared and provided by educational reforms? How can the policy-makers and educators can ensure the linkage of the IT and triplized CMI environment with the maximizing of opportunities for students' learning and development?
3. How well students' self learning can be facilitated and sustained as potentially life long in all the initiatives proposed in the educational reforms? In other words, how can the maximized opportunities created in the educational reforms be ensured clearly converging to make students' self learning sustainable to life long?
4. How well students' CMI and their ability to triplize their self learning can be developed in the new initiatives for learning and teaching? Basically, how can the policy-makers and educators ensure the relevance and outcome of students' learning in terms of multiple intelligences, multiple values, and ability of triplizing self learning?

Clearly, the implications from these issues and challenges for research are very substantial. It needs a lot of inter-disciplinary and long-term research efforts to study paradigm shifts in learning, teaching and assessment, investigate and understand the above issues in policy-making, management, and practice, and proposes appropriate strategies and methods to implement paradigm shifts and reforms at different levels.

Towards Continuous Life-long Professional Development of Teachers and Principals

In response to the fast changing educational environment and the increasing and demanding challenges from the local and global communities, there is a trend of educational reforms in nearly all countries the Region with emphasis on continuous life-long professional development teachers and principals. For example, Australia, Korea, Singapore, Hong Kong, Mainland China, Thailand, New Zealand, and Taiwan are some of typical cases.

Traditionally, it is often assumed that educational goals are clear and static and educational practices should be improved if they cannot achieve these goals successfully. But nowadays, educational environments are changing very quickly and goals are not so clear and unchanged anymore. In the past decade, numerous changes have been imposed on schools and teachers in different parts of the world and this trend seems to be further accelerated in the new century. If teachers, principals and their schools are not enabled and prepared to deal with these changes, all the efforts for enhancing education quality and effectiveness will result in failure. Since education change and development are ongoing in a changing environment, there is also a strong need for continuous lifelong professional development of school practitioners (Elliott & Morris, 2001). Most countries have already reviewed their teacher education and put life-long teacher development onto their agenda for education reform (Cheng, Chow & Tsui, 2001).

In current education reforms, many initiatives emphasize using a school-based approach to developing school and staff and enhancing education quality. For examples, are school-based management and school-based curriculum development. Therefore, school leaders will play more and more important role of leading their colleagues to face up to many uncertainties, ambiguities and challenges and developing them to make these initiatives successful (Caldwell & Spinks, 1992). In response to continuous school and staff development, educators and leaders are inevitably facing some new challenges in this area, such as (Cheng, in press):

1. How can school leaders build up a new culture of continuous life-long staff development among their colleagues and related school stakeholders (Cheng, 2000c)? In other words, how can they develop their schools as learning organizations that can support all types of learning and development (Senge, et al., 2000)?

2. How can the relevance of staff's professional development or formal teacher education be ensure to ongoing educational reforms and paradigm shifts in education (Elliot & Morris, 2001; Pang, 2001)?
3. How can a knowledge management system can be built within the schools that encourages action learning, accumulates experiences and knowledge from daily practices, and informs further development of staff?
4. How can the diverse needs of ongoing school and staff development be identified and satisfied within a limited resource framework?
5. How can internal and external networks can be built to provide the necessary support and resources for ongoing school development, professional development and teacher education (Cheng, 1992; Mok & Cheng, 2001)?
6. The trends and changes in the context of education in different parts of the Region are challenging school leaders, educators, policy-makers, and researchers. With the aim to pursue new approaches to education for the future, there is a strong local and international demand for a paradigm shift in educational leadership. What kind of new paradigm in leadership should be in such a context? How should the necessary paradigm shift be conceptualized, organized and implemented successfully among educational leaders?

When compared with the huge scale of ongoing education reforms, the existing advances in understanding the nature of staff development, teacher education and leadership development are still insufficient to support any substantial initiatives in them. Clearly, a broad spectrum of research efforts should be needed in these areas in coming years.

Further Implications for Research on Educational Reforms

The above nine trends of educational reforms in the Region and their challenges provide numerous important issues and implications for research we have discussed in the previous sections. In addition to the implications from each trend of educational reforms, there are further overall implications for research on educational reforms and policy-making.

Currently, many countries in the Region are reviewing or reforming their whole education systems from pre-education to tertiary education and continuing education. The scope of reforms and reviews is so huge and the nature of changes is so fundamental. The numerous initiatives proposed urgently need research and a comprehensive knowledge base to inform and support their effective development, implementation, and practice.

Even though there is a strong rhetoric of research-based policy formulation in many

countries, the reality takes a different form. For instance in Hong Kong, in the Education Commission Report No. 1, there is explicit recommendation that, "All educational research activities should be co-ordinated with the planning and formulation of educational policies (paragraph 6.8)." (Education Commission, 1984, p. 80-81). The same report confirmed the consensus towards the need for "in-depth research into curriculum development, teaching practices and evaluation of pupil achievement" (p. 78). In addition, local research was felt to be more relevant to Hong Kong than research undertaken overseas (ibid, p. 78, paragraph 6.3). Emphasis on research was reiterated in Education Commission Report No. 7 in form of intended strategies, including, "draw reference from experiences and research materials in and outside Hong Kong; research into specific issues related to the review" (Education Commission, 1997). But unfortunately, in practice, however, research-based policy development is still a rarity and luxury in Hong Kong (Cheng, Mok, & Tsui, 2000).

More government leadership and determination are needed to use research and knowledge to inform policy and practice before a healthy policy culture can be established. With reference to the framework of policy analysis proposed by Cheng & Cheung (1995), there is an urgent need to establish a research environment and a comprehensive knowledge base that can cover the whole policy life cycle to support the continuous development and improvement of educational policy and practice from the individual level and site level to the system level in Hong Kong in the new millennium.

The whole life cycle of educational policy in general includes formulation of policy objectives, policy formulation, policy implementation, and policy outcomes. According to Cheng and Cheung (1995), to support policy development and effective implementation, there should be four integral frames for policy research and analysis covering the whole policy life cycle, as shown in Figure 1. Research based on these four frames is needed to support the ongoing full scale educational reforms in many countries in the Region.

Frame 1: Research on Background and Underlying Principles

This frame of research includes analysis of existing problems in the policy background and principles underpinning the goals of policy formulation. Traditional beliefs and values about education, expected functions and hidden functions of education in new millennium, legal and philosophical considerations, as well as practical constraints are some key areas for policy research in this frame. It is hoped to develop new knowledge for understanding the policy background and develop policy objectives for education development.

Frame 2: Research on Policy Formulation Process

Research involved in this frame focuses on the characteristics of the policy making body (e.g. legitimacy and representation of interest groups, expertise, composition and formation

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process, etc.); the characteristics and effectiveness of the decision making process (e.g. consultation, participation, open and free discourse, consensus, etc.) ; the various perspectives and technology employed (e.g. ecological analysis, system analysis, economic analysis, management analysis, rationality building, and decision technology, etc) ; and the overall quality of the resulted educational policy (e.g. suitability, feasibility, and acceptability, etc.). The knowledge generated from this research frame is crucial to ensure the fairness, quality and effectiveness of the formulation process.

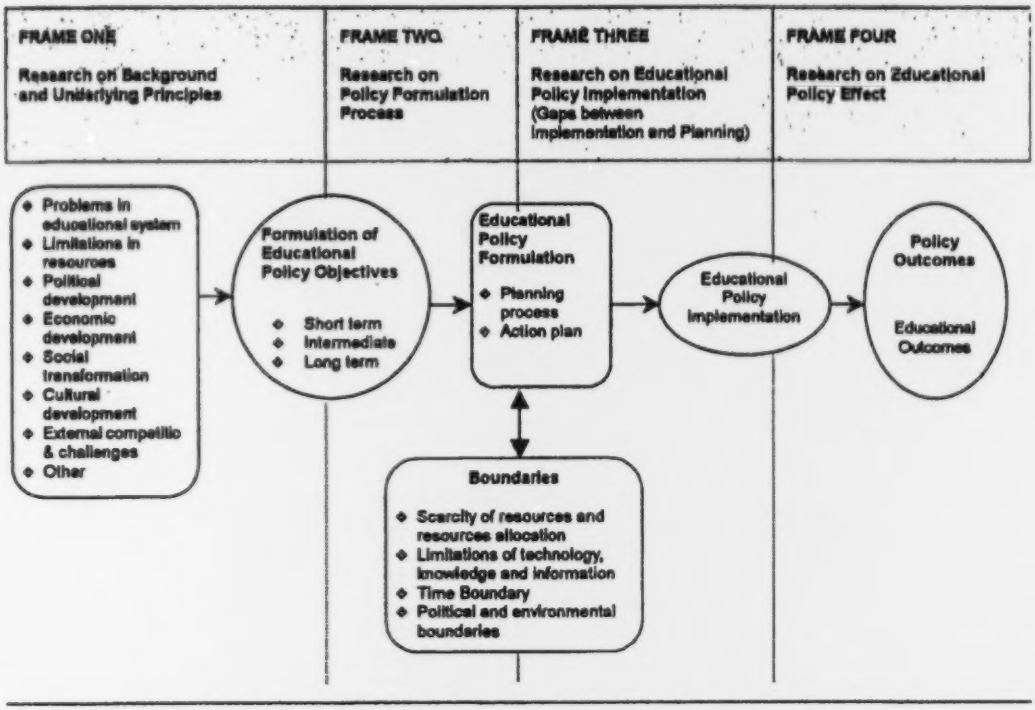
Frame 3: Research on Policy implementation Process

Research in this frame concerns the understanding, identifying and bridging the gaps between education policy planning and its implementation. Key research areas include the cognitive, psychological and technical readiness of stakeholders (e.g. administrators, teachers, students, parents, etc.), the readiness of resources (e.g. human resources, facilities, space, monetary resources, and other related resources, etc.), the framework of policy implementation (e.g. time availability, implementation stages, realistic schedule, etc.), the legal preparation (e.g. legal rights of those concerned, legislation for the policy, etc.), and the level of planned change by the policy (e.g. the system level, organizational level, classroom level, individual level, and the congruence between levels). Some educational initiatives in Hong Kong (e.g. whole day schooling for primary students) with a very good will was finally unsuccessful in implementation because of the ignorance of the necessary preparations for key concerned parties and lack of understanding mutual linkages between levels when in change. Therefore, comprehensive research on the gaps between planning and implementation is really necessary to reduce the major resistance, redress the potential causes of failure and facilitate effective practice.

Frame 4: Research on Education Policy Effects

Frame 4 focuses on the analysis of the relationship between implementation and outcomes of education policy. Some policies may aim only at solving an administrative or political problem in resources. In that case, educational outcomes so derived may be minimal or even negative. Some policies do have outcomes that would in turn generate educational outcomes. Some policies, certainly, aim directly at educational outcomes. Key research areas include the nature and scope of policy outcomes and educational outcomes, the relationship between policy outcomes and educational outcomes at different levels, the relationship between these two types of outcomes and the implementation process, the cost-effectiveness of the policy, and the hidden impacts on different aspects of the concerned parties or the education system, and the lessons for improving implementation, formulation, and the whole policy life cycle, etc. (Cheng, Ng, & Mok, in press).

Figure 1. The Four Frames of Research on the Whole Life Cycle of Educational Policy in Hong Kong



(adapted from Cheng & Cheung, 1995)

Building an Overarching Framework

In addition to the above four frames of research, research on developing an overarching framework is necessary (Cheng, Mok & Tsui, 2000). A particular education policy cannot be developed in isolation. Instead, any education initiative introduced by the government is going to affect the implementation of existing policies and the success or otherwise of the policy itself is in turn being impacted upon by existing policies. Consequently, knowledge base concerning an overarching framework is required to put the proposed education policy into perspective within the constellation of existing policies. For the case of Hong Kong, there is no evidence that the Hong Kong government has undertaken research into developing such an overarching framework in the policy developments included in Education Commission Reports 1-7 (Education Commission, 1984 – 1997). For instance, the use of Information Technology in schools is going to have significant impact upon the management culture of the school, the assessment approaches, the learning culture, as well as the methods of teaching. How is the IT reform to be coordinated with existing reforms in school-based management, assessment reform, Chinese as the chief medium of instruction and other quality education reforms? Unfortunately,

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there does not seem to be any explicit direction from Education Commission as to how these reform efforts can be orchestrated so that each compliments the others in synchrony to enhance students' learning.

Conclusion

In response to the challenges of globalization, information technology, international competitions, knowledge-based economy, and fast societal developments in the new millennium, there are numerous education reforms in nearly all countries in the Asia-Pacific Region. Based on the findings and observations from numerous country reports and policy documents of Australia, Japan, Hong Kong, Korea, Malaysia, Mainland China, New Zealand, Philippine, Thailand, Vietnam, Lao, Taiwan, India, and Indonesia in the past five years, some main trends of education reforms in the Asia-Pacific Region are identified, such as: Towards re-establishing new national vision and education aims; Towards restructuring education system at different levels; Towards ensuring education quality, standards, and accountability; Towards market-driving, privatizing and diversifying education; Towards decentralization and school-based management; Towards parental and community involvement in education and management; Towards using IT and new technologies in education; Towards paradigm shift in learning, teaching and assessment; and Towards continuous life-long professional development of teachers and principals.

There are some crucial issues raised from each of these trends, that are challenging the success of policy formulation and reform implementation in education in many countries in the Region. It is a great concern about how these issues can become the urgent agenda in educational research if reforms are to be fully informed and finally successful in formulation and implementation. Therefore, the implications from these issues for educational research and policy analysis should be important. In addition to research on the issues from each trend of education reforms, the overall framework of policy research and analysis should be established with aims to provide a comprehensive knowledge base that can cover the whole policy life cycle to support the continuous development and improvement of educational initiative at different levels. An overarching framework is also required to put the proposed education policy into perspective within the constellation of existing policies.

Given the complexity of research on such comprehensive educational reforms in many countries in the Region, there is an urgent need to develop a critical mass of research intelligence through different types of networking in the Region is a necessity not only for individual countries but also for the whole Asia-Pacific Region to meet the numerous challenges in education reforms for the new millennium. It is hoped that this paper will open a wide range of issues and implications for policy debate and education research on educational reforms in the Region and other parts of the world.

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